## DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES Office of Structural Materials

Quality Assurance and Source Inspection

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Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 69.28

# WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary **Report No:** WIR-003937

Address: 333 Burma Road **Date Inspected:** 18-Sep-2008

City: Oakland, CA 94607

**OSM Arrival Time:** 630 **Project Name:** SAS Superstructure **OSM Departure Time:** 1530 **Prime Contractor:** American Bridge/Fluor Enterprises, a JV

Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

**CWI Name: CWI Present:** Yes Huang Wen Pang and Lyliqing No **Inspected CWI report:** Yes N/A **Rod Oven in Use:** Yes No No N/A N/A N/A **Electrode to specification:** Yes No **Weld Procedures Followed:** Yes No N/A **Qualified Welders:** Yes No **Verified Joint Fit-up:** Yes No N/A N/A N/A **Approved Drawings:** Yes No **Approved WPS:** Yes No Yes No N/A **Delayed / Cancelled:** 

34-0006 **Bridge No: Component: OBG** and **SAS** Tower Fabrication

## **Summary of Items Observed:**

On this date, Caltrans Office of Structural Material (OSM) Quality Assurance (QA) Inspector Joselito Lizardo was present as requested to perform observations on the fabrication of Orthotropic Box Girder (OBG) and SAS Tower at Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China.

The QA Inspector has randomly observed the following activities on sub-assembly Bays mentioned below;

### Bay 7: OBG - Floor Beam Sub Assembly

The QA Inspector randomly observed ZPMC welder Duan Xin Zhi ID Number 050502 utilizing the SAW Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2, to weld the fill pass on plate splice butt joint of floor beam sub-assembly FB012-021-026. QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring weld parameters.

This QA randomly observed ZPMC welder Lui Kaige ID #044830 utilizing the FCAW Process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U2-F-1 to weld CJP fill pass on flange splice butt joint on FB003-094-105. The QA Inspector randomly observed ZPMC CWI Huang Wen Pang monitoring preheat and weld parameters.

FCAW(2F/3F) fillet welding various stiffeners to web plate/flange of FB003-095-065/066 following WPS-B-T-2133 and tack/fit-up of various stiffeners and flange to web plate of floor beam FB015-017 weld joints 011/012, 015/016 and 017/018 and floor beam FB003-101-005/003 using TL508 and following WPS-B-P-2112 this QA observed.

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#### Bay 8: Tower Diaphragm

This QA observed three ZPMC welders ID #068924, ID #045246 and ID #045133 SMAW(2G) PJP welding fill pass on 60mm stiffener plate to tower double diaphragm(bottom) NSD1-SA334B/B weld joints 3, 4 and 15. ZPMC welders were noted utilizing Excalibur E9018M H4R, 4.8mm diameter electrode following WPS-B-T-3312-Tc-P5. The QA Inspector randomly observed ZPMC CWI Lyliqing monitoring weld parameters.

Tack/fit-up of 40mm thick web plate to tower double diaphragm (bottom) WSD1-SA372B/B weld joints 3 and 4 utilizing Excalibur E9018M H4R, 4.8mm diameter electrode this QA observed.

This QA randomly observed ZPMC welder ID #066734 and ID #043714, utilizing the FCAW Process with a 1. 4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2331-B-P3-T-1 to weld PJP fill pass on plate splice butt joint on tower diaphragm plate ESD1-SA421 weld joints 3 and 5. The QA Inspector randomly observed ZPMC CWI Lyliqing monitoring preheat and weld parameters.

Bending of 60mm heavy steel plate marked P1536 for tower diaphragm flange using natural gas with thermal heat input of <650 degree C with the aid of hydraulic ram following procedure HSR1(T)-4152 this QA observed.

## **Summary of Conversations:**

No significant conversation ocurred today.

#### **Comments**

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Joshua Ishibashi, (858) 232-7081, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo, Joselito	Quality Assurance Inspector
Reviewed By:	Cuellar,Robert	QA Reviewer